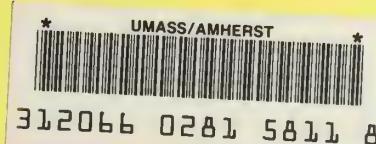
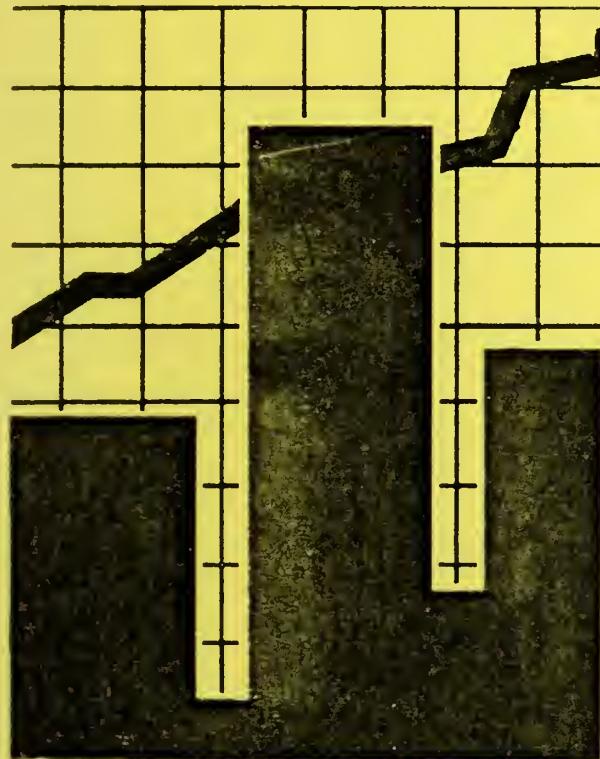


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**EXTENDED
SHELTERED
EMPLOYMENT
PROGRAM**



Massachusetts

Rehabilitation

Commission

**20 PARK PLAZA
BOSTON, MA 02116**

**COST
BENEFIT
ANALYSIS**

**ELMER C. BARTELS
COMMISSIONER**



A COST BENEFIT ANALYSIS
OF THE EXTENDED
SHELTERED EMPLOYMENT PROGRAM

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Background of the Study

In January, 1984, the Massachusetts Rehabilitation Commission (MRC) contracted with the Center for Human Resources at the Florence Heller Graduate School, Brandeis University, to conduct a study of the Extended Sheltered Employment Program (ESEP) in Massachusetts. ESEP is a work program for persons with severe disabilities who generally cannot be placed in competitive employment. The goals of the program are to provide meaningful work and supervision to clients who are capable of maintaining a productivity level of at least 25% of competitive employment and at a commensurate wage, while, for some, developing the capacity for a later transition to a regular job setting.

The ESEP has been in operation for over ten years. Currently, there are approximately forty workshop sites across the state and approximately 1500 active client slots. Clients in the program are individuals with severe disabilities related either to mental retardation, emotional impairments, developmental or physical disabilities.

Purposes and Scope of the Study

The purpose of the study was to provide MRC staff and other state human services policymakers with a base of information about ESEP, from which to assess the impact which the program has on the lives of its participants. The overall objectives of the study were to: (1) obtain a better understanding of what clients are served by the program; and (2) measure the per client costs and benefits of the ESEP. The study addresses the types of clients that are served by the ESEP; range and type of services provided to clients; change in wages, productivity, and attendance as the result of participation in the program; extent to which clients are placed in employment or referred to other programs; and changes in public expenditures as the result of participation in ESEP.

Methodology

1. Study Design

All workshops that receive funding from MRC were sent letters requesting voluntary participation in the study. Five workshops participated in the study, representing a 13% sample of the available workshops. The total number of ESEP clients in these workshops was 233, representing 17% of the ESEP clients across the state. Data were gathered via a self-administered questionnaire (see Appendix) designed by the study team after the team had made site visits to each of the participating workshops and had discussed the questionnaire with workshop and MRC staff. Workshop staff completed the questionnaire based on information obtained from client records.

Two criteria were utilized to determine client eligibility for participation in the study: (1) clients had to have been active in ESEP by April, 1981, and (2) clients had to have spent at least six months in the program. Based on these criteria, information was gathered on 173 clients, representing 12% of all ESEP clients across the state. The breakdown of the five workshops and the number of clients from each workshop are as follows: Arthur Clark (Waltham) - 3; Shoe City Contract Company (Brockton) - 12; Community Workshops, Inc. (Boston) - 39; Morgan Memorial Goodwill Industries (Boston) - 55; and South Shore Rehabilitation Center (Quincy) - 64. Three time periods were selected for study in order to examine major client outcomes over time taking into account differences in case mix and resources at the workshops. The periods encompassed April - June for 1981, 1982, and 1983.

2. Conceptual Framework

The central purpose of the study was to estimate the net benefits, i.e., benefits minus costs, of the ESEP program. This section presents the conceptual base for the net benefits calculations and summarizes the results. The following sections elaborate on the data underlying the component elements of benefits, costs, and net benefits.

Cost calculations begin with the cost to MRC of the ESEP program. However, there are other public costs associated with ESEP beyond the MRC costs. Some costs would be incurred by ESEP clients whether or not they participated in this program. Thus the principle we followed in evaluating ESEP was to identify only those costs of public agencies incurred because of participation in ESEP. In addition to MRC costs, the following items were estimated as costs that resulted because of participation:

- Support services provided by workshop staff. They are a cost to the workshops. If the clients had not participated in ESEP, they would not have received these services. Some believe, in addition, that these services enhanced performance of clients on their ESEP jobs.
- Referral services provided and paid for outside the workshops, but arranged by the workshops for ESEP clients. Again, the referrals might have enhanced ESEP performance and would not have been made if the clients had not been in ESEP.

- Transportation costs paid by agencies outside the workshops, but necessary for clients to attend their ESEP jobs.

On the benefit side, the principal benefit, is the wages earned by working in ESEP jobs. These wages constitute a private benefit to the clients themselves, but are also a social benefit if previously unproductive people are made productive as a result of ESEP. Strictly, the whole wage should count as a benefit only for clients who were not working at all before. For those who did work, only the gain in wages is a benefit. Unfortunately, data were not available on pre-ESEP wages. Thus the whole wage was used for each client, which could overstate the true benefit.

A fraction of ESEP participants moved on from ESEP because they were placed in regular jobs. The increment in wage for these people above their ESEP wage constituted an additional benefit to them, assuming that they were successfully placed because of the experience they had acquired on their ESEP jobs. These extra wages were also a social benefit if the clients would not have been placeable without ESEP. These benefits, although concentrated among only a fraction of the clients, were averaged over all clients in order to estimate the total benefit per client of ESEP.

In addition to these direct benefits which resulted because ESEP made clients more productive, there were some indirect benefits of ESEP. The indirect benefits are savings to individuals or agencies other than the clients themselves which result because the clients have become more productive.

One important indirect benefit relates to the income supports clients received under programs like SSI, AFDC, and General Relief. The costs of supporting ESEP clients under these programs were not counted as ESEP costs, because clients would have received payments whether or not they participated in ESEP. However, if payments from these programs went down because of ESEP, then the savings to these programs would be an indirect benefit of ESEP. Since payments in these programs are related to earnings, the new wages of ESEP clients should, on average, have reduced their payments under these other programs. Since pre-ESEP participation data were available on these programs, annual savings were established based on the reductions observed between the pre-ESEP and the study periods.

Another indirect benefit is the reduction in informal supports needed by ESEP clients. To the extent that family members provided fewer support services, there were savings that could be considered benefits of ESEP. Family-provided support services were valued at the going rate for home-makers. We had no data on pre-ESEP informal supports. Instead, we estimated savings only for the observed three year period of ESEP participation. Therefore we probably underestimated this benefit.

The details on estimating each of these benefits and costs are discussed in the following sections.

An Overview of Cost, Benefit, and Net Benefit Estimates

Table 1 presents a comprehensive list of costs and benefits attributable to ESEP. However, the net benefits of the program can be calculated from a number of points of view. Depending on the point of view, some of the cost or benefit elements could be omitted in calculating net benefits. For example, one approach on the cost side would be to focus on MRC costs alone.

MRC is the agency that operates ESEP. MRC did not mandate that the support services and referral services be provided; the individual workshop decided whether or not to offer these. By excluding these other costs, MRC can see the return on the investment of its own dollars. Alternative estimates of net benefits will be calculated using MRC costs alone and using comprehensive total costs.

Table 1. Costs and Benefits of ESEP

Costs		Benefits	
1. MRC Costs	\$2173.67	Average ESEP wage	\$2449.33
2. Support Services costs	72.80	Incremental Placement wage, averaged over all clients	291.11
		Incremental wage value attributable to support services	112.00
3. Referral Service Costs	127.32	Reduction in income support payments	107.00
4. Transportation	504.70	Reduction in value of informal supports (valued at average homemaker wages)	38.25
Total Costs	\$2878.49	Total Benefit	\$2997.69

All cost and benefit figures are calculated on an annual, per client basis. All cost and benefit figures are averages across the three time periods of the study.

On the benefit side, one approach would be to include only the direct benefits which are the wage items, while the other would be to use the comprehensive benefit total. The difference is the value of the indirect benefit. The problem here is not conceptual as much as one of data quality. While wage data were obtained directly from the questionnaires, the data on indirect benefits involved more assumptions.

Given these two alternative cost and benefit bases, Table 2 summarizes four different estimates of net benefits. For three of the four estimates, the net benefit is positive. For the last estimate, comprehensive cost against wage benefits, the cost/benefits ratio is 1:1.

Considering first the return on just MRC costs, the benefits from wage gains alone exceed cost by \$678.77 per client per year. This means that the rate of return per MRC dollar spent is 31 percent. Indirect benefits total \$145.25 which raises the net benefit to \$824.02 if included. Considering comprehensive benefits, the rate of return per MRC dollar is 38 percent.

The comprehensive cost base yields a more conservative net benefit since additional costs are included. Since the additional costs outside of MRC amount to \$704.82, the two alternative net benefit figures are reduced by this amount if the comprehensive cost base is used.

Although the amount of the net benefit varies depending on the cost and benefit bases used, overall ESEP appears to be a cost effective program, particularly with respect to MRC costs.

TABLE 2. Net Benefits of ESEP Per Client, 1980-82

	Cost Basis	Benefits Basis	Net Benefits
1.	MRC Cost	Wage Benefits	\$678.77
2.	MRC Cost	Comprehensive Benefits	824.02
3.	Comprehensive Costs	Wage Benefits	-26.05
4.	Comprehensive Costs	Comprehensive Benefits	119.20

MRC Costs are \$2,173.67; Comprehensive Cost are \$2,878.49.

Wage Benefits are the sum of wages on ESEP jobs, the incremental wage benefit from support services provided, from placements and total \$2,852.44, Comprehensive Benefits are \$2,885.69. All figures come from Table 1.

It should be noted that the above cost and benefits figures are averages over the three years of the study. In fact, benefits increased substantially over time while MRC costs increased only slightly. Average figures thus give a more conservative estimate of the rate of return on MRC costs than would Time 3 figures alone. During Time 3 the MRC return on wage benefits increased to 40% and on comprehensive benefits to 45%. Non-MRC costs increased over the three time periods so averaging did not make as big a difference in net benefits calculated on the comprehensive cost basis, these remained at about a 1:1 ratio.

Costs Per Client

Overview

Costs per client in the ESEP program were calculated, incorporating the following cost components: 1) MRC contract reimbursements by workshop for each of the three time periods; 2) other workshop costs incurred in program operations, principally the costs of support services provided; and 3) the costs of other services provided by local agencies; in particular, the cost of transportation and referral services rendered.

Much of the data presented below are estimates of the average cost of the services provided, based on the cost data available from the workshops and from state agencies, including the State Department of Education (for transportation service costs) and the State Rate Setting Commission (for referral services). Only the MRC costs are based on actual cost data.

Overall, as shown in Table 3 below, the average cost per client increased 22.5% between Time 1 and Time 3, from \$637.59 to \$781.00 per quarter. The major component of this increase was in per client transportation costs, rising from \$52.20 at Time 1 to \$176.30 in Time 3 (much of this difference is likely because of the addition of South Shore data for Time 3 which were not available for Time 1). MRC costs rose minimally (3%) during the study period, while the net effects of referral and support services cost changes essentially balanced each other out (overall, there was a net increase of \$2.67, or 2%, for these services).

Table 3

ESEP Per Client Costs By Type of Public Cost Per Three (3) Months Period

	<u>Time 1</u>	<u>Time 2</u>	<u>Time 3</u>	<u>Time 1 - Time 3</u>
1. MRC Costs	\$529.25 (\$2117 annual)	\$554.25	\$546.75 (\$2187 annual)	+ 3.0
2. Other workshop costs (support services)	21.62	15.40	17.56	- 18.8
3. Other costs:				
Transportation	52.50	150.00	176.30	+237.7
Referral Services	34.52	19.72	41.25	+ 19.5
TOTAL	\$637.59 (\$2550.36 annual)	739.72 (\$2957.48 annual)	781.36 (\$3125.44 annual)	+ 22.5

1) MRC Costs

As already noted, the overall MRC costs per client remained essentially constant throughout, rising by 1% per time period (\$23.33 per client). Table 4 below presents the MRC cost per client per workshop for the study period. It is seen that MRC costs at three of the workshops, Arthur Clark, Shoe City, and South Shore, show greater fluctuation than the overall average, amounting to + 15.2%, and + 20.4%, and 11.7% respectively.

Table 4

MRC Costs Per Client By Workshop By Time Period

<u>Workshop</u>	<u>Time 1</u>	<u>Time 2</u>	<u>% Change</u>	<u>Time 3</u>	<u>% Change</u>
1. Arthur Clark	\$ 316.25	\$ 340.50	+ 7.6	\$ 366.50	+ 7.6
2. Shoe City Contract Co.	555.75	664.25	+ 19.4	671.50	+ 1.0
3. Community Workshops	479	529.25	+ 10.5	513	+ 3.0
4. Morgan Memorial	659	612.75	- 7	619.75	- 9.7
5. South Shore	636.50	624.50	- 2	563.50	- 1.4
Average cost per client (\$2117 annual	\$ 529.25 (\$2217 annual	\$ 554.25 annual	+ 4.7	\$ 546.75 (\$2187 annual	- 1.4

2) Workshop Costs

As noted in the discussion on benefits, the five workshops participating in the study offered a high level of support services to clients throughout the study period. The positive effects of these services on wages are presented in the next section.

The costs to the workshops for providing these services are represented in Table 5 below. They were calculated from hourly wage rate data for program staff at each of the workshops. The Clark, Shoe City, and Community Workshops' data were generated from their 1983 RSC-600 cost reports; while the South Shore and Morgan data are based upon current hourly wage rates provide directly to the study team. Seven per cent wage deflation rates were assumed from these base rates back through the earlier time periods.

For each time period the total units of services (in hours) provided, as shown in Table 5, were multiplied by a weighted average rate per hour. This total was then divided by the number of active clients to derive a per client cost, as shown on Table 6.

Table 5

Support Services Provided By Workshop By Time Period (in hour units)

<u>Workshop</u>	<u>Time 1</u>	<u>Time 2</u>	<u>Time 3</u>	<u>Average</u>
1. Arthur Clark	9	36	27	24
2. Shoe City Contract Co.	54	68	61	61
3. Community Workshops	8	4	N/A	4
4. Morgan Memorial	205	189	140	178
5. South Shore	96	124	99	106
<hr/>				
TOTAL	372	421	327	75

Table 6

Costs of Support Services By Workshop By Time Period

<u>Workshop</u>	<u>Time 1</u>	<u>Time 2</u>	<u>Time 3</u>	<u>Avg. Cost</u>
Arthur Clark	\$ 49.50	\$ 216.00	173.07	\$ 146.19
Shoe City Contract Co.	288.90	287.80	387.35	358.05
Community	46.40	25.00	---	23.80
Morgan	1,281.25	1,256.85	994.00	1,177.37
South Shore	561.50	768.80	658.35	662.92
TOTAL	\$2,227.65	2,664.45	2,217.77	
Overall Per Client Cost	\$21.62	\$15.40	\$17.56	\$18.19

It is evident from the data that the bulk of the support service costs are incurred by the Shoe City, Morgan, and South Shore workshops. In turn, a range of per client costs is found among these workshops, from \$34.68 per client at Shore to \$67.92 at Morgan, with Shoe City at near the mid-point of this range at \$53.71.

3) Other Client Costs

Other client costs include those costs not directly generated by the workshops, but generated as part of the operations of ESEP. The two major costs in this category are those for transportation and referral services.

As shown in Figures 1 and 2, transportation represents by far the single largest client service cost, second only to MRC costs in overall per client costs. Transportation costs per client grew from \$52.20 per client in Time 1 to \$176.30 per client in Time 3 (based upon average client round trip cost data per workshop obtained from the Department of Education) encompassing a total of 8895 client round trips during these nine months, a 238% increase in per client cost and a 217% increase in client round trips, respectively.

Figure 1

Transportation Services Provided Per Time Period

<u>Workshop</u>	<u>Time 1</u>	<u>Time 2</u>	<u>Time 3</u>	<u>Average</u>	<u>% Change</u>
Number of round trips provided	922	4390	3583	2965	+ 288
Number of trips per client	8.95	25.38	28.44	21	+ 217

Figure 2

Estimated Costs of Transportation Services Provided by Time Period

	<u>Time 1</u>	<u>Time 2</u>	<u>Time 3</u>	<u>% Change</u>
Per Client	\$ 52.20	\$ 150	\$ 176.33	+ 237.8
TOTAL	5,347.60	25,950	22,217.00	+ 315.5

The final client cost component measured was the cost of referral services. The data base included the number of referrals by type of service by type of provider agency. Using data obtained from the Massachusetts Rate-Setting Commission for 1984, deflated 7% for each of the three years in the study period, an estimate was made of the costs of the referral services provide as shown in Table 7 below.

Table 7

Estimated Costs of Referral Services By Time Period

Type of Service	Time 1	Time 2	Time 3	Average	% of Total
Medical *	\$2,577	\$2,431	\$4,131	\$3,046.33	75.0
Counseling **	625	575	567	589.00	14.5
Psychiatric	288	304	280	290.67	7.0
Independent Living Skills Training	36	60	160	85.33	2.0
Housing Assistance	30	42	60	44.40	1.5
TOTAL	\$3,556	\$3,412	\$5,198		
Per Client Cost	34.52	19.72	41.25	31.83	
Total # of Referrals =	256				
Average Cost Per Referral =	\$47.50				

* Medical visits were assumed to include 2/3 hospital emergency room and 1/3 physician's office visits.

** Counseling services included those provided by both licensed psychologists as well as those of a licensed social worker. The calculation of costs used a weighted average of the established Medicaid rates of these two types of professional services.

Benefits: Direct and Indirect

As noted above, we distinguish between direct and indirect benefits. Direct benefits refer to benefits per client, such as wages and support services. Indirect benefits refer to benefits accruing to society, other agencies, and individuals other than clients themselves; examples are reductions in income support payments (e.g., SSI, SSDI, AFDC/General Assistance) and informal support services (e.g., home care). Table 8 summarizes the results of the benefit analyses. The calculation of each benefit is discussed in turn in this section.

Table 8

Annualized Direct and Indirect Benefits Per Client of Participation in ESEP

Direct Benefits

1. Wages of non-placed ESEP clients:

Time 1	-	\$2236
Time 2	-	2292
Time 3	-	2820
Average	-	2449
2. Net wage benefit of placed clients: \$3,357.46 for placed clients
291.11 across all clients
3. Value of support services in terms of increased wages: \$112 per client.

Indirect Benefits

1. Reductions in Income Support Expenses: \$107 per client
2. Reductions in Informal Support Services: \$38.25 per client

Overall Trends in Wage Rates, Attendance, and Productivity

The chief benefits to clients in ESEP are earned wages. This section presents the results of analyses which examined average wage rates for each time period by the (1) type of disability, and (2) number of units (i.e., hours) of workshop support services received by clients. Wages earned are a function of attendance, productivity, and the wage rate. In order to better understand variation and changes in average earned wages across workshops, and over time periods, we also present data on average attendance and average productivity.

It will first be noted from Table 9 that overall, wages increased from Time 1 to Time 2 to Time 3. Wages at Time 3 were up 26% over Time 1 and 23% over Time 2. Although there were variations across workshops, the general trend was for wages at Time 3 to be higher than at Time 1. In one instance (Arthur Clark), Time 2 and Time 3 wages were lower than Time 1 by 41% and 39% respectively (although Time 3 wages were 6% higher than Time 2). Presumably, this fluctuation was partially due to the small number of clients in this shop (N=3).

For Shoe City Contract, Time 3 wages dropped 7% from Time 2 but were still 10% higher than Time 1. Community also experienced a very slight drop in average wage from Time 1 to Time 2, but again Time 3 wages were higher than both earlier time periods. Morgan wages at Time 3 were 25% higher than Time 1, and 15% higher than Time 2. The most dramatic increase in wages, however, occurred at Shouth Shore where there was a 49% increase at Time 3 over Time 2 wages, which also was the highest wage earned across shops for any time period (\$824).

TABLE 9

AVERAGE CLIENT WAGE BY WORKSHOP BY TIME PERIOD AND PERCENT CHANGE BETWEEN TIME PERIODS

WORKSHOP (Number of Clients)	AVERAGE WAGES BY TIME PERIOD AND PERCENT CHANGE					
	Time 1 (4/1-6/30/81)	Time 2 (4/1-6/30/82)	Time 1 to Time 2	Time 3 (4/1-6/30/83)	% Change Time 1 to Time 3	% Change Time 2 to Time 3
						N
Arthur Clark	(3)	428	(3)	254	- 41	(3)
Shoe City Contract Co.	(12)	459	(12)	544	+ 19	(9)
Community	(36)	667	(35)	660	0	(30)
Morgan	(52)	515	(45)	558	+ 8	(38)
South Shore	(NA)	NA	(59)	554	-	(46)
Overall	(103)	558	(154)	573	+ 3	(126)
	(\$2236 annual)*	(2292 annual)				(2820 annual)

* Annual figure represents an estimate and was calculated by multiplying the overall wage for each 3 month time period by 4.

In attempting to account for wage variations, we examined average productivity. It can be seen from Table 10 that average productivity was generally in the 40% to 50% range across workshops and fairly stable across the time periods. Productivity is therefore of little help in trying to understand wage variations. Most notably, however, productivity is well above the 25% minimum productivity level required for remaining in ESEP.

Average attendance rates (Table 11) were also very similar across the shops, generally ranging from 84% to 100%, and remained stable across time periods. Attendance rates are thus also of little help in trying to understand wage variations. These very high attendance rates are, however, impressive in and of themselves.

Since neither productivity nor attendance rates can account for the wage variations noted in Table 9, it can only be presumed that wage variations are largely accounted for by variations in wage rates, or in other related factors regarding the overall rate of pay.

Workshops with similar productivity and attendance rates show wide differences in average client wages. This probably reflects differences in the rate of pay their clients receive for various types of contract work and other factors such as the work setting. For example, clients in off-site jobs (i.e., not shop-based) generally received higher wage rates than those in workshop-based jobs. In part, this is seen in comparing wages for off-site job work, most notably at South Shore during Time 3, with workshop-based jobs.

Relationship of Wage Rates to Disability

When client wage was examined by type of disability (Table 12), no distinct pattern emerged. Overall, the physically disabled of each time period had the highest wage but within shops across time periods, there was fluctuation in terms of which disability group earned the highest wages.

TABLE 10

AVERAGE CLIENT PRODUCTIVITY BY WORKSHOP BY TIME PERIOD

<u>Workshop</u>	<u>Average Productivity by Time Period</u>		
	<u>Time 1</u>	<u>Time 2</u>	<u>Time 3</u>
Arthur Clark	45%	30%	29%
Shoe City Contract Company	44	47	50
Community	45	46	46
Morgan	42	47	52
South Shore	NA	48	50
Overall	44	44	46

TABLE 11

AVERAGE ATTENDANCE BY WORKSHOP BY TIME PERIOD

<u>Workshop</u>	<u>Average Attendance by Time Period</u>		
	<u>Time 1</u>	<u>Time 2</u>	<u>Time 3</u>
Arthur Clark	84%	86%	92%
Shoe City Contract Company	97	94	95
Community	82	87	89
Morgan	96	86	91
South Shore	NA	93	100
Overall	92	89	94

TABLE 12

AVERAGE CLIENT WAGE BY DISABILITY BY WORKSHOP BY TIME PERIOD

<u>Workshop/Disability</u>	(N)	<u>Average Client Wage by Time Period</u>		
		<u>Time 1</u>	<u>Time 2</u>	<u>Time 3</u>
<u>Arthur Clark</u>				
Mental Illness	---	---	---	---
Mental Retardation	(3)	\$428	\$254	\$260
Physical Disability	---	---	---	---
<u>Shoe City Contract Company</u>				
Mental Illness	(2)	816	298	290
Mental Retardation	(10)	388	572	528
Physical Disability	---	---	---	---
<u>Community</u>				
Mental Illness	(17)	694	683	705
Mental Retardation	(14)	593	568	614
Physical Disability	(5)	787	863	820
<u>Morgan</u>				
Mental Illness	(15)	490	477	572
Mental Retardation	(22)	505	603	683
Physical Disability	(14)	558	574	671
<u>South Shore *</u>				
Mental Illness	(9)	NA	544	809
Mental Retardation	(42)	NA	567	819
Physical Disability	(4)	NA	538	740
<u>Overall</u>				
Mental Illness	(43)	611	570	662
Mental Retardation	(91)	502	565	705
Physical Disability	(23)	619	639	739

* The South Shore N is for Time 2.

The assumption that mentally impaired clients might experience the sharpest fluctuations in wages was not supported by our data. In turn, the steadily increasing wage earnings of the mentally retarded clients from Time 1 to Time 3 are impressive.

Relationship of Wage Rates to Support Services Provided

We next analyzed wages by the number of hours of workshop-based support services provided to clients (Table 13). To do this, we constructed three categories of amount of support services received: None (0 hours); Low (1-4 hours); and, High (5-30 hours). The most important finding was that the more units of support services received, the larger the percentage increase in wages from Time 1 to Time 2 to Time 3. In particular, clients in the 'High' category overall experienced at Time 3 a 69% increase in wages from Time 1, and a 67.5% increase in wages from Time 2. Although clients in both the 'Low' and 'None' groups also exhibited increased wages, the percentage change was not nearly as great as the 'High' category. In short, the more support services received, the higher the percentage of wage increase over time.

Support services therefore also create a benefit in terms of increasing client users' wages over and above what they would have earned had they not received support services. For example, comparing high users to those who did not receive support services, we calculate the extra increase in Time 3 wages from Time 1 wages which are attributable to support services to be \$112.* In other terms, high users earned \$112 more in wages than they would have received had they not received support services and this increase is presumably due to the

* To arrive at this figure, we averaged the percentage change from time 1 to time 3 for the None (+11.6) and Low (+21.3) groups, subtracted this average (+16.45) from the percentage change for the High (+69) group, and multiplied this percentage difference (53%) times the time 1 wage for the High group (\$424) divided by 2 in order to arrive at the yearly increase in wages attributable to support services (\$112).

TABLE 13

AVERAGE CLIENT WAGE BY HOURS OF WORKSHOP SUPPORT SERVICES BY TIME PERIOD

<u>Workshop/Hours of Support Services</u>	<u>Time 1</u>	<u>Time 2</u>	<u>Time 3</u>		
<u>Arthur Clark</u>					
None (0)	---	---	---		
Low (1-4)	\$428	\$254	\$260		
High (5-30)	---	---	---		
<u>Shoe City Contract Co.</u>					
None (0)	984	493	356		
Low (1-4)	200	309	628		
High (5-30)	295	1033	305		
<u>Community</u>					
None (0)	679	698	690		
Low (1-4)	573	361	---		
High (5-30)	---	---	---		
<u>Morgan</u>					
None (0)	---	---	---		
Low (1-4)	564	616	697		
High (5-30)	465	469	509		
<u>South Shore</u>					
None (0)	NA	544	861		
Low (1-4)	NA	586	787		
High (5-30)	NA	326	764		
		<u>% Change</u>	<u>% Change</u>	<u>% Change</u>	
		<u>Time 1</u>	<u>Time 2</u>	<u>Time 2</u>	
		<u>to Time 2</u>	<u>to Time 3</u>	<u>to Time 3</u>	
<u>Overall</u>					
None (0)	705	624	- 11.5	+ 11.6	+ 26
Low (1-4)	544	523	- 4	+ 21.3	+ 26
High (5-30)	424	428	0	+ 69	+ 67.5

effect of the support services received. Since support services cost only \$31.69 per client, this inputed figure for the wage gain from support services would suggest they yield a benefit far above their cost.

At the same time, it should be noted that, overall, the higher the amount of support services received, the lower the absolute total wage (except for the High group in Time 3 which earned more than the Low category). In sum, although those who received less support services demonstrated a smaller percentage increase in wages over time, they also had higher absolute wages. Presumably, those receiving greater amounts of support services are in some way more impaired, earn less as a result, but improve the most in terms of percentage increase in wages as the amount of support services are increased. It should also be noted that the inputed wage gain from support services does not enter the calculation of net benefits from ESEP in Tables 1 and 2. There only total wages are included as a benefit. The breakdown of this benefit between the portion resulting from support services or from the ESEP job directly does not matter in the overall benefit calculation.

Wage Rates for Clients Placed

The final wage rate examined by client group was a comparison of the average wage rates of the seventeen clients placed in competitive employment between Time 1 and Time 3 with those remaining in ESEP. Table 14 presents the net difference in earnings between the annual earnings of those placed in competitive employment and the annual earnings of those who remained in ESEP.

As Table 14 indicates, those who were placed earned \$50,362 more annually than those who remained in ESEP. In order terms, the average net earnings increase per client placed was \$3,357 more than those who remained in ESEP, or a benefit of \$291.11 when averaged across all clients in the study.

Table 14

NET ANNUAL EARNINGS DIFFERENCE BETWEEN CLIENTS PLACED
AND CLIENTS REMAINING IN ESEP BY WORKSHOP *

Workshop	Client Placed and Time of Placement	Annual Placement Earnings	Annual ESEP Earnings	Net Difference
Clark	1 client placed Time 1	\$1742	\$1040	+ 702
Shoe City	2 clients placed Time 2	8507 8507	2176 2176	+6331 +6331
	2 clients placed Time 3	2613 6968	2016 2016	+ 597 <u>+4952</u> <u>18,913</u>
Community	1 client placed time 2	3484	2640	+ 844
Morgan	1 client placed time 2	8736	2232	+6504
	2 clients placed time 3	5200 3120	2568 2568	+2632 + 552 <u>9688</u>
South Shore	3 clients placed time 2	6097 6097 6968	2216 2216 2216	+3881 +3881 +4752
	3 clients placed time 3	6968 5226 6097	3296 3296 3296	+3672 +1970 +2801 <u>20,957</u>
		<u>86,330</u>	<u>35,968</u>	

TOTAL NET WAGE INCREASE = \$ 50,362

AVERAGE NET INCREASE PER CLIENT PLACED = \$3,357.46

AVERAGE NET INCREASE ACROSS ALL CLIENTS = \$291.11.

* Actual hour and wage data were available for only 15 of the 17 clients placed.

Reductions in Income Support Expenses

A further benefit of participation in ESEP is the reduction in income support payments (SSI, SSDI, AFDC/General Assistance) to clients from Time of Entry to ESEP to Time 3 (see Table 15). This benefit accrues to both the agencies responsible for such programs and the general public whose tax dollars ultimately support them. Overall, there was a 23% reduction in payment sources from Time of Entry (\$324,636) to Time 3 (\$250,560). Across all clients, this averaged out to be a \$428 decrease in income support received since the Time of Entry to ESEP. Since 1979 was the average time of entry, this translates to a \$107 reduction per client in annual income source payments received per clients.* In sum, participation in ESEP and specifically, the wages earned, have the beneficial effect of reducing dependence on public income support.

* The figure of \$107 was derived by dividing \$428 by the average time of participation in ESEP which amounted to 4 years (i.e., the difference between the years 1983 and 1979). This represents a conservative estimate procedure since we took the average across the four year instead of the absolute difference Time of Entry and Time 3.

TABLE 15

Quarterly Income Support Expenses by Time Period *

<u>Expenses by Time Period</u>						
<u>Payment Source</u>	<u>Entry</u>	<u>Cost Per Client</u>	<u>Time 1</u>	<u>Time 2</u>	<u>Time 3</u>	<u>Cost Per Client</u>
SSI	\$ 319	\$ 220,952 1,277	\$ 277	\$ 304	\$ 251	\$ 173,448 1,003
SSDI	82	56,508 327	67	62	58	39,888 231
FADC and General Assistance	68	46,376 274	68	64	54	37,224 215
TOTAL		324,636 1,876				250,560 1,448
						- 23.0

- * Quarterly expenses obtained by multiplying the average monthly expenditure for that payment in Massachusetts by 3 by the number of clients receiving that source of payment divided by the total number of clients. The average monthly payment in April, 1984 for SSI was \$219. The average monthly SSDI payment in January, 1984 was \$277. The combined monthly average payments for AFDC (\$356) and General Assistance (\$208) was \$282.

Reductions in Informal Support Services

The final benefit analyzed was the reduction in informal support services received by clients. Informal support services refer primarily to residential care or services provided in the home, usually by family members, such as assistance with household tasks, personal grooming, etc. A reduction in the provision of such services was largely construed as a benefit to those who formerly provided such services but, secondarily, to clients who became less dependent on such supports.

The annual per clients reduction in informal services spread across all clients was \$38.25. To arrive at this figure the following procedures were employed. The total number of annual units (i.e., hours) of such services provided to clients receiving them for Time 1 (52 hours) and Time 3 (13 hours) were multiplied by the going hourly rate for homemaker services in that time period (\$4.00 per hour for Time 1 and \$5.00 per hour for Time 3); the resulting value of Time 1 services (\$208) was multiplied by the number of clients receiving services in that time period (103) and the value of Time 3 services (\$65) was multiplied by the number of clients receiving services in that time period (126); the resulting values of these calculations was divided by the total number of clients in the study (173) yielding \$123.84 for Time 1 and \$47.34 for Time 3. Time 3 costs were then subtracted from Time 1 costs (i.e., \$123.83 - \$47.34) and divided by 2 (the year span from Time 3), to arrive at the annual reduction in informal support services of \$38.25 per clients across all clients.

Net Savings/Increase in Institutional Costs

There is another potential benefit to public payors to and clients of the ESEP program -- reduced use of medical services, especially of institutional services. The assumption underlying the calculation of this benefit is that the medical services provided at the workshops or by referral will, over time, lessen client need for other outpatient or inpatient medical services.

It was not possible, given the sparse data available at the workshops, to measure this. While data for medical referral services was adequate, data on both prior utilization as well as for ongoing utilization was, in large measure, lacking. Should this area be of policy interest to MRC and to workshop staff, discussion is in order regarding the changes required in agency data systems to make possible this calculation.

Conclusions and Recommendations

The major study finding was that the benefits of the ESEP program are greater than costs for each of the four measurements utilized. The net benefits are greatest when wage or comprehensive benefits are compared with MRC costs. The benefits resulting from ESEP wages earned, job placements, and reductions in the level of income supports and informal support yield a 33 percent return on the MRC program dollar. However, even when considering just the net benefit of earned wages in relationship to MRC program cost, a 26 percent return was observed.

Setting these findings in the context of program policy, the need to consider ESEP as a special type of sheltered work program is underscored. The major client outcome in the program is not the level of wages earned or the likelihood of job placement. Instead, it appears to be the ability to achieve and maintain good rates of productivity and attendance in a work environment, while concurrently reducing the need for professional and informal support services -- in short, to achieve greater personal independence and self esteem. This is clearly a desirable outcome from a public policy perspective which, in this program, proves to be cost beneficial as well.

These study findings suggest some new areas for ongoing monitoring and evaluation of ESEP. For example, it appears that the workshops are able to maintain a subgroup of clients in ESEP through the use of support services and referral services. In turn, the study findings suggest that there is a net benefit accruing to these clients as a result of these services. Therefore, it is suggested that workshop and MRC staff continue their discussion on the costs and benefits of these services in order to insure that sufficient resources are available for their provision.

On a related point, it was found that workshop data on support services, referral services, and informal support services very widely: some workshops have comprehensive data for these services, while others maintain much more limited client data. The potential costs and benefits to the workshops and to MRC of more uniform, comprehensive clients data which include these service data should be explored. In a similar vein, the workshops should periodically assess the effects of high levels of support and referral service provision to clients, at a minimum to distinguish the characteristics of those clients who were successfully maintained in ESEP from those who are referred to other public programs.

With respect to wage rates and job placements, the primary policy question raised by the study findings is that of off-site contracts. It appears, from the experience at the South Shore site in particular, that ESEP clients are able to diversify their job skill development while significantly increasing their earnings the more extensively off-site contracts are used. If this is found to be the case at other workshops moving in this direction, it can be expected that the net benefits of the program might rise dramatically and that the job placement rate will probably also show a marked increase. An important part of the demonstrated efficacy of off-site placements will include meeting any new support service needs of these clients as compared with their needs in the workshop environments. This should be examined as part of the overall analysis of the effects of off-site placements.

DATA APPENDIX: Profile of Client Demographic Characteristics

The demographic characteristics of the client population and some of the differences between workshops are examined in this Appendix. This information provides a basis for understanding the characteristics of the clients included in the study sample.

Of the 173 clients whose records were analyzed for this study, 59% (102) were male and 39% (68) were female, with no sex reported for the remaining 1.7% (3) of the clients. The age of clients varied, with the majority falling into the 22 to 30 or 31 to 40 categories. Four percent (7) of the clients were between 18 and 21, 28.3% (49) between 22 and 30, 30.6% (53) between 31 and 40, 21.4% (37) between 41 and 50, 11.6% (20) between 51 and 60, 1.7% (3) between 61 and 65, and .6% (1) over 65, with 1.7% (3) cases of missing data. Most clients were white (86.7%) and single (86.1%).

The primary disability of the clients was either mental illness (25.4%, n=44), mental retardation (57.8%, n=100), or physical (13.9%, n=24), with mental retardation being reported as the primary disability for over half of the clients. The number of years since the onset of the primary disability range from four to fifty years, indicating that some clients had had their disability since birth while others had been dealing with a disability for a relatively short time. With respect to educational achievement, 33% (58) of the clients had completed some or all of high school, while another 30% (52) had participated in special education programs. Table A-2 presents these data.

Clients' living situations changed somewhat after they entered ESEP. Table A-1 compares their living situation at time of entry into ESEP with the living situation at the time the questionnaire was completed. The number of individuals living with parents increased (33% to 38%), as did the number living in group homes (5.2% to 17.9%) and in nursing homes (.6% to 2.9%). However, interpreting these findings is somewhat difficult because there was considerable missing data at time of entry into the program.

The length of time that clients had been in ESEP varied from one to ten years, with many having been in ESEP from one to three years. Clients' annual income at time of acceptance into ESEP was low, with 35% (n=61) earning between 0 and \$2,499, 41% (n=72) earnign between \$2,500 and \$4,499, and 3.5% (n=6) earning between \$4,500 and \$7,499 (data was not available for 20% of the clients had had previous full-time employment, 50% (n=86) had been in work adjustment training, 7% (n=12) had been in a work activity center, and 8% (n=13) had had vocational skills training.

A comparison of client demographics by workshop illustrated some differences between workshops. Table A-2 presents some of these differences. Disability type, income level and prior work history indicate the greatest differences between workshops.

Following Table A-2 is the questionnaire used in the study.

TABLE A-1

Living Situation at Time of Entry into ESEP
vs. Current Living Situation

<u>Living Situation</u>	<u>Time of Entry</u>		<u>Current</u>	
	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>
alone	28	16.2	28	16.2
with spouse	5	2.9	5	2.9
with dependent child(ren) and spouse	3	1.7	5	2.9
with dependent child(ren) without spouse	--	--	--	--
with adult child	2	1.2	2	1.2
with parent	57	32.9	65	37.6
with roommate	--	--	2	1.2
with sibling	11	6.4	13	7.5
group home	9	5.2	31	17.9
residence	2	1.2	1	.6
hospital	--	--	2	1.2
nursing home	1	.6	5	2.9
supervised apartment	1	.6	--	--
with family care person	1	.6	1	.6
missing information	53	30.6	13	7.5
	—	—	—	—
	173	100%	173	100%

TABLE A-2

Client Demographics By Workshop *

<u>Demographic Variable</u>	<u>Arthur Clark</u> <u>N</u>	<u>Shoe City</u> <u>N</u>	<u>Community Workshop</u> <u>N</u>	<u>Morgan Memorial</u> <u>N</u>	<u>South Shore</u> <u>N</u>
<u>Age:</u> 18-30	2	7	11	15	21
31-50	1	4	23	24	38
above 50	0	1	5	13	5
<u>Sex:</u> male	0	6	21	34	41
female	3	6	18	18	23
<u>Disability Type:</u>					
mental retardation	3	10	16	23	48
mental health	0	2	18	15	9
physical	0	0	5	14	5
<u>Income:</u>					
\$0-2,499	1	5	16	16	23
\$2,500-4,499	2	7	19	31	13
\$4,500-7,499	0	0	4	1	1
<u>Prior Work History:</u>					
prior employment	1	1	2	8	1
TEP	0	1	0	0	1
work adjustment	0	9	35	5	37
work activities	0	11	0	0	1
voc. skills training	1	10	0	0	2

ESEP CLIENT DATA FORM

Workshop # _____

Client # _____

1. Client Work Record

Calculate the monthly average wage, attendance, and productivity for each of the time periods in which the client was active in ESEP.

<u>Time 1 (4/1-6/30/81)</u>	<u>Wage</u>	<u>Attendance</u>	<u>Productivity</u>
-----------------------------	-------------	-------------------	---------------------

Month 1	\$	%	%
Month 2	\$	%	%
Month 3	\$	%	%

Time 2 (4/1/-6/30/82)

Month 1	\$	%	%
Month 2	\$	%	%
Month 3	\$	%	%

Time 3 (4/1-6/30/83)

Month 1	\$	%	%
Month 2	\$	%	%
Month 3	\$	%	%

2. Jobs Performed

Please check jobs that client has performed during each of the time periods in which the client was active.

<u>Job</u>	<u>Time 1</u> (4/1-6/30/81)	<u>Time 2</u> (4/1/-6/30/82)	<u>Time 3</u> (4/1-6/30/83)
Packaging and Assembly	_____	_____	_____
Mailroom	_____	_____	_____
Clothes Sorting	_____	_____	_____
Wood and Machine Shop	_____	_____	_____
Electronics Assembly	_____	_____	_____
Cafeteria	_____	_____	_____
Janitorial	_____	_____	_____
Shipping and Receiving	_____	_____	_____
Clerical	_____	_____	_____
Other (Please specify)	_____	_____	_____

3. Income Sources

Please check income sources of client at time of entry into program and for each of the time periods in which the client was active (do not include income from ESEP).

<u>Source</u>	<u>At Time of Referral</u>	<u>Time 1 (4/1-6/30/81)</u>	<u>Time 2 (4/1-6/30/82)</u>	<u>Time 3 (4/1-6/30/83)</u>
SSI	_____	_____	_____	_____
SSDI	_____	_____	_____	_____
AFDC	_____	_____	_____	_____
General Assistance (Welfare)	_____	_____	_____	_____
Workmen's Compensation	_____	_____	_____	_____
Veteran's Benefits	_____	_____	_____	_____
Pension	_____	_____	_____	_____
Alimony	_____	_____	_____	_____
Support from Family (Including spouse)	_____	_____	_____	_____
Other (Please specify)	_____	_____	_____	_____

4. Referrals/Placements (for clients no longer active in ESEP).

NOTE: Please note the placement at the time period which is closest to the time made.

Placement in Competitive Employment, Transitional Employment, On the Job Training Program, etc.

Type of Employment (i.e., hospital, high tech company, etc.):

<u>Type of Job</u>	<u>Time 1 (4/1-6/30/81)</u>	<u>Time 2 (4/1-6/30/82)</u>	<u>Time 3 (4/1-6/30/83)</u>
Packaging & Assembly	_____	_____	_____
Mailroom	_____	_____	_____
Clothes Sorting	_____	_____	_____
Wood and Machine Shop	_____	_____	_____
Electronics Assembly	_____	_____	_____
Mechanical Assembly	_____	_____	_____
Cafeteria	_____	_____	_____
Janitorial	_____	_____	_____
Shipping & Receiving	_____	_____	_____
Clerical	_____	_____	_____
Other (Please specify)	_____	_____	_____

When Placed _____

Hourly Earnings _____

Hours Per Week _____

Referral to Another Program (i.e., day activity program, etc.):

Agency _____

Type of Program _____

When Placed _____

Hours Per Week _____

No longer an Active Client Due to:

_____ Extended Illness

_____ Inability to Produce at Expected 25% Level of Competitive Employment

_____ Poor Attendance

_____ Dropout for No Apparent Reason

_____ NO Desire to Remain in Program

_____ Other (Specify: _____)

5. Please indicate support services provided by workshop staff (i.e., counseling, social support, etc.) for each of the time periods in which the client was active.

Specific Service (i.e., counseling, therapeutic services, etc.)	Provided by Which Staff Person (i.e., counselor, work supervisor, <u>director, etc.</u>)	Funding Source(s)	Total Units Provided (Specify how units are defined, i.e. hours, visit, etc.)
--	--	----------------------	---

Time 1
(4/81-6/81)

_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Time 2
(4/82-6/82)

_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

5. -- (Continued)

<u>Specific Service (i.e., counseling, therapeutic services, etc.)</u>	<u>Provided by Which Staff Person (i.e., counselor, work supervisor, director, etc.)</u>	<u>Funding Source(s)</u>	<u>Total Units Provided (Specify how units are defined, i.e. hours, visit, etc.)</u>
--	--	------------------------------	--

Time 3
(4/83-6/83)

6.a) Please indicate other publically funded services provide by other community agencies (i.e., use of other agencies or outside professionals) to client for each of the time periods in which the client was active in ESEP.

<u>Services) *</u>	<u>Type of Provider (i.e., social service agency, state program, etc.)</u>	<u>Number of Referrals Made</u>
--------------------	--	---

Time 1
(4/81-6/81)

Time 2
(4/82-6/82)

Time 3
(4/83-6/83)

* NOTE: All services with the exception of transportation should be recorded here. Transportation is a separate category found on the next page.

- b) For transportation services only. Please indicate for those clients for whom publicly funded transportation services have been provided the total number of round trips provided for each of the time periods when client was active.

Number of Round Trips

Time 1
(4/1-6/30/81) _____

Time 2
(4/1-6/30/82) _____

Time 3
(4/1-6/30/83) _____

7. Please indicate other support services provided by families, friends, neighbors, etc. (attendant care, housekeeper, respite care, support group) to the client for each of the time periods in which the client was active.

Specific Service (i.e., attendant care housekeeper, respite care, support groups, etc.)	<u>Provided by Whom</u>	<u>Where Provided</u> (e.g., home)	Hours per Week
---	-------------------------	---------------------------------------	----------------------

Time of Entry
Into ESEP _____

Time 1
(4/1-6/30/81) _____

Time 2
(4/1-6/30/82) _____

7. -- (Continued)

<u>Specific Service (i.e., attendant care housekeeper, respite care, support groups, etc.)</u>	<u>Provided by Whom</u>	<u>Where Provided (e.g., home)</u>	<u>Hours per Week</u>
Time 3 (4/1-6/30/83)	_____	_____	_____
	_____	_____	_____
	_____	_____	_____
	_____	_____	_____
	_____	_____	_____
	_____	_____	_____

Client Demographic Characteristics at Time of Referral to ESEP (to be abstracted from the intake form)

8. Age

18 to 21 51 to 60
 22 to 30 61 to 65
 31 to 40 over 65
 41 to 50

9. Sex

male
 female

10. Race or Ethnic Background

White
 Black
 Hispanic
 Asian
 American Indian
 Other (specify: _____)

11. Marital Status

Single
 Married
 Separated
 Divorced
 Widowed

12. Primary Disability:

Mental Illness

Mental Retardation

13. Length of Disability:

(No. of years since onset of primary disability) _____

14. Highest Grade Level Completed:

1 to 6

7 to 9

10 to 12

Some college

College

Special Education (specify: _____)

Other (specify: _____)

15. Living Situation

Time of Entry Current

Lives alone

With a husband/wife

With dependent child(ren) and husband/wife

With dependent child(ren) without husband/wife

With adult son or daughter

With parent

With roommate (unrelated individual)

With other family (specify: _____)

A group home (i.e., a halfway house, a board and care home _____)

Other (specify: _____)

16. Date of Acceptance in ESEP _____

17. Annual Income (at time of acceptance in ESEP)

0 to \$ 2,499

\$ 2,500 to \$ 4,449

\$ 4,500 to \$ 7,499

\$10,000 to \$14,999

Above \$15,000

18. Work History Prior to Entrance to ESEP:

- _____ Previous Employment (full-time only), # of Years Worked _____
_____ Transitional Employment
_____ Work Adjustment Training
_____ Work Activity Center
_____ Job Placement Services
_____ Vocational Skills Training
_____ Day Rehabilitation Program
_____ Occupational Assessment Program
_____ Other (Specify: _____)

19. Institutional Days Used:

Please indicate type of institutional placement and length of time of placement (number of months) at time of entry into program and for each of the time periods being compared.

<u>Placement</u>	<u>Year Immediately Prior to Time of Entry</u>	<u>Between April 1, 1981 - June 30, 1983</u>
Acute Care Hospital	_____ Days	_____ Days
Chronic Care Hospital	"	"
Psychiatric Hospital	"	"
Long Term Care Facility	"	"
Nursing Home	"	"

